

**STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY**

IN THE MATTER OF APPROVING A NON-	)	NOC APPROVAL ORDER
RADIOACTIVE AIR EMISSIONS NOTICE	)	NUMBER: DE03NWP-002
OF CONSTRUCTION APPLICATION FOR	)	
TOXIC AIR POLLUTANT EMISSIONS	)	
AT THE WRAP FACILITY FOR THE	)	
DEPARTMENT OF ENERGY-RICHLAND	)	

To: Mr. Joel Hebdon, Director  
Regulatory Compliance and Analysis Division  
Richland Operations Office  
United States Department of Energy  
P.O. Box 550, MSIN: A5-15  
Richland, Washington 99352

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**FINDINGS:**

On May 23, 2001, the United States Department of Energy, Richland (USDOE-RL), submitted a Notice of Construction (NOC) application for the Waste Receiving and Processing Plant (WRAP) for toxic air pollutant emissions located in the Hanford Site's 200 West Area. That application and the resulting regulatory order, herein, supersede the previously issued regulatory order, application, and subsequent modifications.

In relation to the above, the Department of Ecology (Ecology), state of Washington, pursuant to RCW 70.94.152, WAC 173-400, and WAC 173-460 makes the following determinations:

1. The facility, if operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and 173-460 WAC, and the operation thereof will not result in ambient air quality standards being exceeded. Information submitted in the NOC application shows emissions will be below the threshold levels contained in WAC 173-400-110(5)(d), allowing exemption of the proposed activities from New Source Review under WAC 173-400-110.
2. The proposed project, if constructed and operated as herein required, will provide all known, available, and reasonable methods of emission control.

**A. LAWS AND REGULATIONS**

All proposed activities conducted within the WRAP Facility stationary source by USDOE-RL, referred herein to as the permittee, shall comply with all requirements as specified in:

- RCW Chapter 70.94, Washington Clean Air Act

- WAC Chapter 173-400, General Regulations for Air Pollution Sources
- WAC Chapter 173-401, Operating Permit Regulation
- WAC Chapter 173-460, Controls for New Sources of Toxic Air Pollutants

## B. EMISSIONS

Operations at the WRAP Facility and activities associated with the storage and treatment of waste, will generate the following estimated emissions of criteria and toxic air pollutants (TAPs):

Volatile organic compounds (VOCs)	<2.0 tons/year
Toxic Air Pollutants	< 410 pounds/year

- C. **BACT** -- WAC 173-400-113 requires the use of Best Available Control Technology (BACT) to control emissions. Since emissions will be below the threshold levels contained in WAC 173-400-110(5)(d), no technology controls are warranted for criteria pollutants.

**T-BACT** -- WAC 173-460-040(4)(b) requires the use of Best Available Control Technology for Toxics (T-BACT) to control toxic emissions. A T-BACT analysis was done; the results indicated no additional controls are warranted for toxic air pollutants. All estimated emissions resulting from operations at the WRAP facility are within the bounds of WAC 173-460 acceptable source impact levels (ASILs) at the boundary of the Hanford Site.

## ADDITIONAL FINDINGS

### 1. PROCESS DESCRIPTION

The WRAP Facility (2336-W Building) located south of 23<sup>rd</sup> Street and west of Dayton Avenue, in the 200 West Area, is a 4,766-square meter metal building consisting of pre-insulated, pre-finished metal, interlocking roof, and wall sandwich panels. The mission of the WRAP Facility includes examining, assaying, characterizing, treating, verifying, and repackaging solid radioactive and mixed waste to enable treatment, storage, or disposal of the waste. The WRAP Facility bounded by this order is the stationary source, including existing support buildings (e.g., maintenance and administrative), as described below and in the notice of construction application for this order.

The physical, chemical, and radiological attributes of newly generated mixed waste are expected to be well known prior to receipt at the WRAP Facility, while retrieved containers could contain less than fully characterized waste. Whether newly generated or retrieved, the mixed waste might not have been sampled before coming to the WRAP Facility. In every case, however, sufficient knowledge of the mixed waste is obtained by sampling (e.g., retrieved waste) or process knowledge (e.g., newly generated waste), to ensure proper management of the waste.

The WRAP Facility consists of the following areas:

- Shipping and receiving area
- Nondestructive examination/nondestructive assay (NDE/NDA) area
- Processing area
- Ancillary support areas, including the heating, ventilation, and air conditioning (HVAC), electrical room, mechanical room, nonradioactive hazardous waste storage area, and administration areas

Waste can also be generated from maintenance activities in the WRAP Facility (e.g., housekeeping waste and maintenance waste). The containers with maintenance waste can be handled to add or remove waste at any location within the WRAP Facility, except for administrative areas.

### **Shipping and Receiving**

Containers are delivered to, and transferred/shipped from, the shipping and receiving area by truck or forklift. In the shipping and receiving area, incoming boxes and containers are unloaded, visually inspected, bar code labeled, and radiologically surveyed. No screening for gaseous compounds is conducted as none of the containers are opened in the shipping/receiving area. Information pertaining to each container is entered into the data management system.

Following visual inspection, containers are transferred to the lag storage area. From the lag storage area, incoming containers are transferred to a weigh station and to the NDE/NDA area for further characterization.

Once characterized, verified, and/or certified, mixed waste is moved to an offsite or onsite permitted TSD unit. Mixed waste that fails verification is returned to the onsite generating unit or offsite generator, processed to correct the problem, or sent to another facility for further reprocessing. Transfer/shipping paperwork is reviewed and processed in accordance with the Hanford Facility Dangerous Waste Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Dangerous Waste (WA7890008967).

### **Nondestructive Examination/Nondestructive Assay Systems**

The NDE/NDA area is used to examine and to certify mixed, LLW, LLMW, TRU, and TRU mixed waste container contents without opening the containers.

The primary function of NDE is to examine the physical contents of containers entering and leaving the WRAP Facility to determine whether there are any noncompliant items or unacceptable conditions in the containers. This examination of the containers is

accomplished by the use of a real-time radiography (RTR) system. The RTR system consists of an x-ray imaging system used to identify noncompliant items, such as free or containerized liquids, compressed gas containers including aerosol cans, and other suspected dangerous waste/materials. Data from the x-ray examination for each container are entered into the data management system.

The primary function of NDA is to determine the activity levels of radionuclides in the radioactive material entering and leaving the WRAP Facility. This information is used to categorize the radioactive material, provide inventory control information, determine appropriate handling of individual containers, and to determine if the material meets applicable transportation and storage or disposal criteria. The NDA equipment includes passive-active neutron assay systems and/or gamma energy analysis systems. Data from the analysis of each container is entered into the data management system.

### **Processing Area**

The processing area consists of the following four glovebox lines:

- LLW process glovebox (100 series glovebox)
- LLW restricted waste management (RWM) glovebox (200 series glovebox)
- TRU waste process glovebox (300 series glovebox)
- TRU RWM glovebox (400 series glovebox)

Even though the gloveboxes have different names, sorting, treating, and repackaging either TRU mixed or LLMW waste can occur in any of the gloveboxes. In the process gloveboxes, containers are opened, the contents sorted and sampled, and if necessary, noncompliant items are removed and transferred to the RWM gloveboxes, and the remaining compliant waste repackaged in new containers.

The airborne contaminants produced at the WRAP Facility are expected to be generated in these gloveboxes. Incoming containers generally are opened in gloveboxes. However, it might be necessary to loosen a lid or replace a damaged lid outside of a glovebox.

### **100 Series and 300 Series Waste Process Lines**

These waste processing glovebox lines can process either TRU mixed waste or LLMW and consist of stainless steel modular gloveboxes that are bolted together in a linear configuration. Windows are gasketed and bolted to the glovebox wall, and gloveports are fitted to the glovebox wall and windows to accept push-through type gloves. Glovebox ventilation is of the once-through type. Air is drawn from the process room into the glovebox, through a nontestable high-efficiency particulate air (HEPA) filter. The air is exhausted from the glovebox through another nontestable high-efficiency process filter to the combined glovebox exhaust system.

Process operations are performed inside of the gloveboxes by using gloves and/or remote controlled manipulators. Containers are loaded into the glovebox through airlock and sealed-type entry systems. Items in the container are sorted and repackaged. Items that do not meet storage or disposal criteria can be sampled and/or treated in the 100 or 300 series gloveboxes or are labeled and transferred to 200 Series and 400 Series RWM gloveboxes using a reusable transfer container. Waste approved for storage or disposal is repackaged in new containers. Treatment operations could occur in the 100 series and 300 series waste process lines.

### **200 Series and 400 Series Waste Restricted Waste Management Lines**

The RWM glovebox lines can treat either TRU mixed waste or LLMW and consist of stainless steel modular gloveboxes. Window, glove port, ventilation, and manipulator features are similar to those described for the 100 Series and 300 Series waste processing line glovebox. Glovebox ventilation is of the once-through type. Air is drawn from the process room, through a nontestable HEPA filter, and into the glovebox. The air is exhausted from the glovebox through another nontestable HEPA filter to the combined glovebox exhaust system. Noncompliant waste is received from the waste process lines in a reusable transfer container or disposable bag-out-bags.

Treatments that could occur in any of the gloveboxes are listed in the current Hanford Facility Dangerous Waste Part A, Form 3. Examples of treatment and repackaging operations that could occur in the gloveboxes include, but are not limited to, the following activities:

- Aerosol cans are depressurized and drained. The drained liquids are treated within the gloveboxes, or retained in containers, which are sent to storage outside of the WRAP Facility. Aerosol cans are punctured and drained with an aerosol can puncturing device.
- Miscellaneous inorganic liquids are sampled for characterization, neutralized if required, and solidified using stabilizing additives.
- Miscellaneous organic liquids are sampled for characterization, treated within the gloveboxes, or repackaged for transfer to appropriate treatment, storage, or disposal facilities pending future treatment.
- Corrosive materials are neutralized. After neutralization, the materials are solidified or loaded for storage or treatment outside of the WRAP Facility.
- Other RCRA permitted treatment such as mercury amalgamation, stabilization of heavy metals, and macroencapsulation could be performed.
- Waste is repackaged to meet acceptance criteria of the receiving facility.
- Waste is sampled.

The empty aerosol cans and other treated packages can be loaded into new containers and routed to the LLW process glovebox for compaction or loaded out of the RWM glovebox for storage, disposal, or additional treatment.

## **2. VENTILATION AND EMISSIONS**

Ventilation exhaust points at the WRAP Facility are divided into two general categories: fugitive emissions and process emissions. The fugitive emissions are from the shipping/receiving area and the NDE/NDA area. The process emissions sources are from the process area (Zone II) and the gloveboxes (Zone I) and are emitted through the stack.

### **Fugitive Emissions**

Areas where containers are handled only in a closed condition are the shipping and receiving and the NDE/NDA areas. These areas are considered 'uncontrolled' because the air pressure in these areas specifically is not controlled with respect to either atmospheric pressure or other areas of the WRAP Facility.

On an annual average, approximately two-thirds of the containers routed through the shipping/receiving and NDE/NDA areas would be vented through a NucFil<sup>®</sup> filter, vent clip, or similar system.

During normal HVAC system operation in the shipping/receiving and NDE/NDA areas, air is recirculated, with air exhausted outside by leakage through doorways and miscellaneous points. The minimum air exchange rate is 0.82 exchanges per hour and the maximum rate is 8.32 exchanges per hour. Fugitive emissions are expected to occur from the shipping/receiving and NDE/NDA areas from the vented containers.

There are no physical controls in place for emissions of volatile organic compounds (VOCs) or volatile toxic air pollutants (TAP) from the vented containers in the shipping/receiving area and the NDE/NDA area. No controls are proposed based on the low levels of emissions.

### **Process Area Emissions**

Areas where containers could be opened are considered potentially radiologically contaminated. These areas are designated as ventilation zones. Ventilation Zone I includes the areas of highest potential radiological contamination (i.e., gloveboxes and exhaust ducts from gloveboxes). Ventilation Zone II includes areas with lower potential for radiological contamination (i.e., rooms in which Zone I areas are located, other areas with some potential for radiological contamination, and exhaust ducts from Zone II areas). The HVAC system maintains airflow from radiologically noncontaminated areas to areas of progressively higher potential radiological contamination by controlling the air pressure in the ventilation zones.

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Zone II areas are maintained at lower pressure than atmospheric pressure; Zone I areas are maintained at a lower pressure with respect to Zone II.

Also, some areas within a specific ventilation zone are kept at different pressures with respect to each other to maintain desirable airflow patterns. For example, the air pressure in the process room is maintained at a lower air pressure than the process HVAC equipment room. Although both rooms are ventilation Zone II, this difference in air pressure maintains the airflow from the process HVAC equipment room to the process room.

### **Zone I Area**

The Zone I gloveboxes and the glovebox exhaust system contribute the majority of the air pollutants present in the emissions from the WRAP Facility.

The gloveboxes receive makeup air from the Zone II area. Air flows from the room into the gloveboxes through push-through filters by virtue of the pressure differential among the gloveboxes and the room. Each of these push-through filters has a rated capacity of 0.02 cubic meters per second. Each glovebox is provided with the appropriate quantity of push-through filters to prevent the inadvertent migration of contamination from the gloveboxes back into the room through the air inlets.

Air from the gloveboxes flows through nontestable process filters to the Zone I exhaust filters. After treatment in the Zone I exhaust filters, approximately 0.43 cubic meters per second of filtered exhaust air is combined with the filtered air from the Zone II exhaust system for discharge through the stack.

### **Zone II Areas**

Zone II areas include the process room, the process HVAC equipment room, the decontamination room, and the warm maintenance room. Make-up air to Zone II areas includes filtered outside air supplied by fans, planned air in-leakage, and airlocks.

A total of approximately 7.29 cubic meters per second of air is exhausted by the Zone II exhaust system. The 7.29 cubic meters per second of air are exhausted using a ventilation control and air treatment system, which is separate from that used for the Zone I areas. After treatment, the Zone II exhaust is combined with treated exhaust from the Zone I areas and discharged through the exhaust stack.

### **Process Area Emission Estimates**

The emissions were estimated by evaluating both VOCs and TAPs emissions that could be present in the containers processed in the WRAP Facility.

## **Volatile Organic Compounds**

As stated in paragraph B of the "Findings" section of this order, VOCs emissions are the only criteria pollutant emissions and could be emitted from either container or aerosol can processing activities in the gloveboxes (i.e., containers opened in the gloveboxes could contain VOCs, and aerosol cans could emit VOCs when opened and drained of residual liquids). The methods of estimating the VOCs emissions are described as follows:

### **Containers**

- It conservatively is estimated that 8,000 containers could be opened in the gloveboxes in a calendar year.
- It conservatively is estimated that 500 pounds of VOC emissions could be emitted for every 1,000 containers processed through the gloveboxes (USDOE/RL-2000-21).
- Based on these estimates, no more than 4,000 pounds of VOCs could be released from the containers opened in the gloveboxes.

### **Aerosol Cans**

- It conservatively is estimated that 1,000 cans could be processed with the aerosol can puncturing device through the RWM gloveboxes in a calendar year.
- For 1,000 aerosol cans punctured, 500 pounds of VOC emissions conservatively could be assumed to be released (without taking credit for the carbon filter on the aerosol can puncturing device).
- Based on these estimates, no more than 500 pounds of VOCs could be released from the aerosol cans that would be punctured and drained in the RWM gloveboxes.

The total pounds of VOCs that could be released during a calendar year conservatively are estimated to be 4,000 pounds, which is the threshold level for exemption from new source review under WAC 173-400-110(5)(d).

## **Toxic Air Pollutants**

### **Containers**

The TAP emissions have been estimated from the following strategy.

- If a TAP compound is a gas, the gas either will be containerized within a box or container or gas will no longer be present. Therefore, TAP compounds that are a gas are eliminated from further consideration.



- If a TAP compound is not volatile, processing the container will not release the compound. (Particulates are controlled with a nontestable high-efficiency process filter and HEPA filters before discharge through the stack). Therefore, TAP compounds that are not volatile are eliminated from further consideration.
- There are six TAP compounds for which a small quantity emission rate (SQER) does not exist (the acceptable source impact level [ASIL] is less than 0.001) that must be considered in estimating the TAP emissions.
- TAP compounds that do not have an ASIL, as listed in WAC 173-460, are evaluated against a SQER as follows:
  - An ASIL value is assigned by using the most restrictive ASIL for the appropriate class (i.e., most restrictive Class B ASIL is 0.15). The SQER is determined using this assigned ASIL.
  - If the SQER amount from the assigned ASIL for the TAP compound physically does not fit inside a standard sized container, the compound is evaluated to determine if 8,000 containers containing 1% by weight of the TAP compound is greater than the Central Waste Complex ASIL threshold (USDOE/RL-2000-21). If the TAP compound did not exceed the CWC ASIL threshold, it was eliminated from further consideration.
  - If the SQER amount from the assigned ASIL physically fits inside a standard sized container, and the processing of an estimated 8,000 containers exceeds the Central Waste Complex ASIL threshold, the TAP compounds must be considered in estimating the TAP emissions. Twenty-nine TAP compounds exceed this estimation.

### **Aerosol Cans**

The main toxic air pollutants contained in aerosol cans were evaluated by the Hanford Site Recycling Center and estimated to contain the following compounds: ethylbenzene, glycol ethers, N-hexane, methanol, methyl ethylketone, methyl isobutyl ketone, toluene, trichloroethylene, xylenes, and 1, 2 epoxy butane.

The estimated amount of TAPs that could be emitted was calculated using the following assumptions:

- 25% of cans recycled are nominally empty (i.e. 1% of original contents remain)
- 35% of cans recycled are half full
- 40% of cans recycled are three quarter-full
- A full can contains 15 ounces (by weight)

If 1,000 cans containing the same chemicals were processed through WRAP in 1 year, the estimated maximum emissions would be 447.7 pounds.

### **3. CONTROL EQUIPMENT DESCRIPTION**

The WRAP Facility gloveboxes are equipped with nontestable high-efficiency process filters on both the inlet and outlet flows to minimize the particulate contamination of the exhaust ducts and final filter banks. These filters are a part of the process control and, if necessary, the filters can be by-passed.

Zone I and Zone II exhausts are each ducted to their own HEPA filtration banks, each bank consisting of two stages of HEPA filters, with one serving as backup to the other. These HEPA filters are abatement control technology required for Washington State Department of Health approval. During routine maintenance activities (e.g., filter change out) or if an equipment component fails, the exhaust flow is diverted to the backup filter bank. The exhausts are combined and subsequently discharged through the stack to the atmosphere.

The Zone I and II exhaust fans have a maximum combined flow of 570 cubic meters per minute. The exhaust fan flow control dampers are adjusted automatically, as necessary, to control the final HEPA filter inlet header pressure. The supply fan outlet header pressure is controlled in a similar manner by adjusting the supply fan control dampers. The header pressure set points were determined during initial design and were confirmed during air balance testing before startup, as those necessary to maintain the internal flows and zone pressures.

The HEPA filters for both Zone I and Zone II are tested annually (per ASME N510) to a minimum efficiency of 99.95 percent for the removal of particulates with a median diameter of 0.3 micron.

Aerosol cans are punctured with an aerosol can puncture device that is designed to minimize the release of pollutants. The can puncturing device uses a tungsten tipped needle to puncture the can that is inverted into the unit. The contents of the can discharge into a bottle that contains the liquid portion while the aerosol flows to another container that allows more of the aerosol to condense before being exhausted through a carbon filter.

### **EXHAUST STACK**

All of the ventilation air from Zone I and Zone II is exhausted through the exhaust stack (296-W-4). This stack is approximately 14 meters high and is located approximately 3 meters to the west of the northwest corner of the WRAP Facility. The exhaust stack is the emission point for ventilation Zone I and Zone II.

### **4. CONTROLS AND VERIFICATION OF EMISSIONS**

#### **Controls**

The emissions from the processing area have a controlled exhaust through the WRAP Facility exhaust stack. The HEPA filters before the stack and the nontestable high-efficiency process

filters located on the outlet of the gloveboxes are effective against particulate discharges. The monitoring systems in place, in the stack, are for radiological monitoring only. The existing stack is considered a control, but no additional controls are proposed for VOC and/or TAP emissions.

### **Verification**

To satisfy the Air Operating Permit application requirement for periodic monitoring (USDOE/RL-95-07), WRAP Facility personnel use a tracking system to track the number of mixed waste containers that are processed through the process area and the number of aerosol cans that are punctured in the RWM process lines. The combined total of the mixed waste containers processed through the process area and the number of aerosol cans punctured are combined, and if the total is less than 1,000, the estimated VOC emissions would be less than 0.5 ton, which is rounded down to zero for annual reporting purposes per Ecology guidance. If this combined number exceeds 1,000, the total VOC emissions are calculated. An annual assessment of the results of this tracking effort will be reported in the calendar year 2003 annual emission inventory report, pursuant to WAC 173-400-105.

It also is proposed that administrative controls be implemented for TAP compounds that could not be eliminated from consideration and require tracking in the WRAP Facility data management system.

## **5. AIRBORNE EMISSIONS MONITORING SYSTEMS**

The existing sampling and monitoring systems are in place in accordance with radioactive emission regulations to monitor radioactive air pollutants. This system consists of a single probe assembly mounted by direct insertion into the stack monitoring flange perpendicular to the stack airflow.

An evaluation of the low levels of criteria/toxic emissions determined the cost/benefit for installation of a monitoring system to be unjustified. Therefore, it is proposed that no monitoring for criteria/toxic emissions be performed on this system.

**THEREFORE, IT IS ORDERED** that the project as described in said Notice of Construction application, and more specifically detailed in plans, specifications, and other information submitted to the Washington State Department of Ecology in reference thereto, is approved for construction, installation, and operation, provided the following conditions are met:

### **APPROVAL CONDITIONS:**

#### **1. TOTAL EMISSION LIMITS**

- A. The processing and repackaging activities described in the Notice of Construction application will be permitted without requiring additional emission controls, provided

that the emissions from the stack, venting the 100 and 300 Series Waste Process Lines, the 200 and 400 Restricted Waste Process Lines, the process area, and storage areas are maintained below the level described in and meeting T-BACT (according to *WRAP Module 1 Best Available Control technology Assessment*, WHC-SD-W026-TI-005, January 1993, Westinghouse Hanford Company, Richland, Washington).

- B. For toxic compounds not included in the T-BACT analysis, the emission limits shall be the Small Quantity Emission Rate (SQER). A modification submittal of a Notice of Construction (NOC) application will be required if the SQER limit would be exceeded for compounds not addressed under the T-BACT assessment. The calculation/measurement methods described in section 4 below, or other method as approved by Ecology, may be used to document compliance with the SQER limit.
- C. A modification submittal of a Notice of Construction (NOC) application will also be required, if total emissions of toxic air pollutants are proposed to exceed the emission estimates provided in the NOC application or limits specified under paragraph 2 of the Laws and Regulations section of this order.
- D. A modification submittal of an NOC application will be required if total emissions of criteria pollutants exceed the WAC 173-400-110 thresholds.

## **2. GENERAL REQUIREMENTS**

An internal annual assessment of the facility container tracking system, such as SWITS or the data management system (DMS), shall be conducted by the facility to document/verify de minimus emissions from the source. This assessment will be maintained on file, made available for Ecology inspector requests, and compiled into emission estimates that will be reported annually beginning as part of the Calendar Year 2003 nonradioactive inventory of airborne emissions.

## **3. EMISSION CONTROLS**

- A. As specified in the total emission limits condition 1, no additional controls are required as a result of this order of approval. Good operating practices, as described in the NOC application, are in place and can be demonstrated upon inspection. The facility is allowed to process 8,000 drum equivalents per year at an average liquid content of one percent by weight based on the average drum weight (not the individual drum weight), on an annual average basis. Free liquids encountered during the processing activities (including container puncturing activities described in the application), that are also TAPs, will be managed in accordance with good engineering practices in minimizing evaporative losses to the extent practical. T-BACT includes good engineering practice to include keeping waste covered whenever possible, use of closed containers for storing liquid and liquid containing solids to reduce evaporative losses.

- B. Use of glovebox, ventilation, and stack dispersion are T-BACT. In addition, use of a can puncturing device with condensation and carbon adsorption are considered T-BACT.
- C. Emission control for particle or particle-bound TAP emissions are High-Efficiency Particulate Air (HEPA) filtration. The use of this system as a required abatement control technology is covered under the radioactive air license, issued by the state of Washington, Department of Health, with conditions and limitation specified therein. Controls regulated under that approval are deemed sufficient to address concerns over de minimus criteria and/or particulate TAP emissions.

#### 4. EMISSION CONTROL MONITORS

- A. Source data from an Organic Vapor Analyzer using a Photoionization detector (PID) with at least an 11.7 eV lamp, or other device capable of detecting TAPs, was conducted by the facility in providing verification of de minimus (i.e., parts per million levels) fugitive emissions in the drum storage and NDE/NDA areas. The results of source test information, conducted on or at the source(s) locations in lieu of downstream at the stack, have been provided to the permit writer under separate cover. This information has been determined to satisfy the previous approval order condition for this source in performing one-time monitoring to demonstrate TAP emissions are below the estimates provided in the NOC application and T-BACT analysis for the drum storage and NDE/NDA areas. As such, no additional sampling or monitoring will be required under this approval order.

The facility will continue to perform at least once every two years, and make available upon request or inspection, results from any Industrial Hygiene program measurements to further demonstrate compliance with limits contained herein. The test plan for conducting these measurements shall also be maintained on file and made available upon request and/or inspection by Ecology.

- B. Headspace sampling in drums may be used in lieu of measurements under 4.A above, in the following manner: for each processing line, the headspace analysis (in milligrams per cubic meter per compound in drum headspace) measured prior to insertion into the glovebox will be multiplied by the cubic meters per minute flow rate from the stack to calculate the milligrams per minute mass emission rate for that drum during processing. The average mass emission rate per day will be calculated based upon the average residence time per drum for that day. A sample calculation is shown below:

$$(C_i \text{ in mg/m}^3/\text{drum } j \text{ for toxic compound } i \text{ in drum } j) \times (Q \text{ in m}^3/\text{minute}) \times (\text{average residence time fraction in gloveboxes, minutes/ specific day}) = \text{mass emission rate from stack in mg/ day average residence time} = (\text{total \# drums processed} \times 1440 \text{ minutes / specific day})$$

- C. The headspace analysis shall be conducted using EPA Method TO-14, or other methods approved by Ecology. If this analysis is addressed under a Waste Analysis Plan, as required under the Resource Conservation and Recovery Act and the Washington State

implementing regulations pertaining to this act, then the Waste Analysis Plan will suffice for the purposes of this requirement.

- D. Evaporation calculations, as previously presented to Ecology, can also be used as an optional method for verification of estimates provided in the NOC emission model.
- E. Ecology reserves the right to require a verification stack test if measurements from methods under 4.A or 4.B above, indicate that there is a significant change in the waste stream or inventory, as was part of the original approval conditions.

## **5. MANUALS**

Existing O&M manuals for all equipment, procedures, and controls associated with the proposed activities that have the potential to affect emissions to the atmosphere shall be followed. Manufacturers' instructions may be referenced. The O&M manuals shall be updated to reflect any modifications of the process or operating procedures. Copies of the O&M Manuals shall be available to Ecology upon request.

## **6. NOTIFICATIONS AND SUBMITTALS**

Any required notifications and submittals required under these Approval Conditions shall be sent to:

Washington State Department of Ecology  
Nuclear Waste Program  
1315 West Fourth Avenue  
Kennewick, Washington 99336-6018

## **7. MONITORING AND RECORDKEEPING**

Specific records shall be kept on-site by the Permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60 month period. The records to be kept shall include the following:

- A. Work Package activities and data related to periodic site occupational health sampling/monitoring including calibration records and measurement data, as described in approval condition #4.A. above.
- B. Any other records on monitoring and testing of drum contents or field screening of drum contents prior to entering the facility, as described in approval conditions in Section 4 above. This data must include:
  - Records of specific drum throughput rates per day for drum processing.
  - Maintenance and operations records and logs for the can puncturing device.

## 8. GENERAL CONDITIONS

- A. **Visible Emissions:** No visible emissions shall be allowed beyond the property line (as defined in other permits).
- B. **Compliance Assurance Access:** Access to the source by EPA or Ecology shall be allowed for the purposes of compliance assurance inspections. Failure to allow access is grounds for revocation of the Order approving the NOC.
- C. **Modification to Facility or Operating Procedures:** Any modification to any equipment or operating procedures, contrary to information in the NOC application, shall be reported to Ecology at least 60 days before such modification. Such modification may require a new, or amended, NOC approval Order.
- D. **Emissions Detrimental to Persons or Property:** No person shall cause or permit the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business.
- E. **Activities Inconsistent with this Order:** Any activity undertaken by the Permittee or others, in a manner that is inconsistent with the NOC application, and this determination, shall be subject to Ecology enforcement under applicable regulations.
- F. **Obligations under Other Laws or Regulations:** Nothing in this Order shall be construed to relieve the Permittee of its obligations under any local, state, or federal laws, or regulations.
- G. Nothing in this approval shall be construed as obviating compliance with any requirement of law other than those imposed pursuant to the Washington Clean Air Act, and rules and regulations hereunder.
- H. Any violation of such rules and regulations, or of the terms of this approval, shall be subject to the sanctions provided in Chapter 70.94 RCW.

Authorization may be modified, suspended or revoked in whole, or part, for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this authorization;
2. Obtaining this authorization by misrepresentation, or failure to disclose fully all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

Any person feeling aggrieved by this ORDER may obtain review thereof by application, within thirty (30) days of receipt of this ORDER, to:

Pollution Control Hearings Board  
P.O. Box 40903  
Olympia, Washington 98504-0903

Concurrently, copies of the application must be sent to:

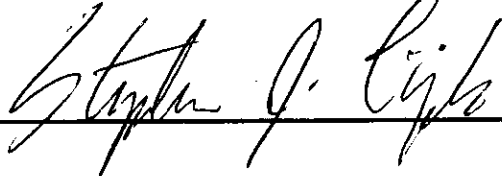
Washington State Department of Ecology  
P.O. Box 47600  
Olympia, Washington 98504-7600

Washington State Department of Ecology  
1315 West Fourth Avenue  
Kennewick Washington 99336-6018

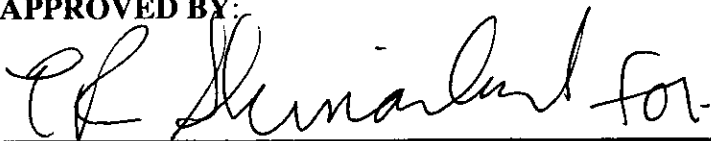
These procedures are consistent with the provisions of Chapter 43.21B RCW, and the rules and regulations adopted hereunder.

**DATED** at Kennewick, Washington, this 21<sup>st</sup> day of May 2003.

**PREPARED AND REVIEWED BY:**

  
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**APPROVED BY:**

  
\_\_\_\_\_

Michael Wilson  
Program Manager  
Nuclear Waste Program